

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

5 Claims 1-24 (canceled)

 Claim 25 (withdrawn): A composition comprising 16 α -bromo-3 β -hydroxy-5 α -androstane-17-one, 16 α -bromo-2-oxa-3 β -hydroxy-5 α -androstane-17-one, 16 α -bromo-3 β -hydroxy-11-oxa-5 α -androstane-17-one or 16 α -bromo-3 β -hydroxy-5 α -androstane-17-one hemihydrate and one or more nonaqueous liquid excipients,
10 wherein the composition comprises less than about 3% v/v water.

 Claim 26 (withdrawn): The composition of claim 25 wherein the composition comprises less than about 0.3% v/v water.

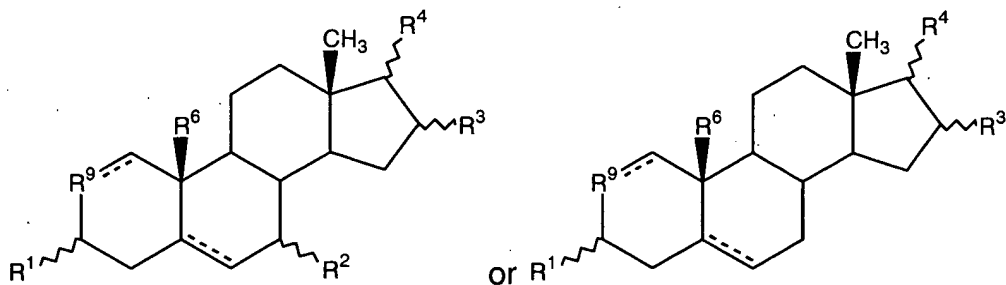
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 Claim 27 (withdrawn): The composition of claim 25 wherein the one or more nonaqueous liquid excipients are two or more of an alcohol, a polyethylene glycol, propylene glycol and benzyl benzoate.

20 Claim 28 (withdrawn): The composition of claim 25 wherein the composition is a parenteral formulation.

 Claims 29-79 (canceled)

25 Claim 80 (new): A method to treat or prevent an innate immune suppression condition in a human comprising administering to the human 1-10 mg/kg/day of a compound having the structure



wherein, the dotted lines are optional double bonds and the hydrogen atom at the 5-position, if present, is in the α -configuration;

R^1 is $-OR^{PR}$, $-SR^{PR}$, an ester, a thioester, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, an ether, a thioether, a carbonate or a thioacetal;

R^2 is $-OR^{PR}$, $-SR^{PR}$, $=S$, $-CN$, $=NOH$, $=NOC(O)CH_3$, an ester, a thioester, an ether, a thioether, an acyl group, a thioacyl group, a carbonate, a thioacetal, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^3 is $-H$, $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, $-N(R^{PR})_2$, $-N_3$, $-CN$, $-NO_2$, $-F$, $-Cl$, $-Br$, $-I$, an ester, a thioester, a thioacetal, an ether, a thioether, a carbamate, a carbonate, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^4 is $-OR^{PR}$, $-SR^{PR}$, an ester, a thioester, phosphate, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, a sulfite ester, a sulfate ester, an ether, a thioether, a carbonate, a thioacetal or a polymer;

R^6 is $-H$, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

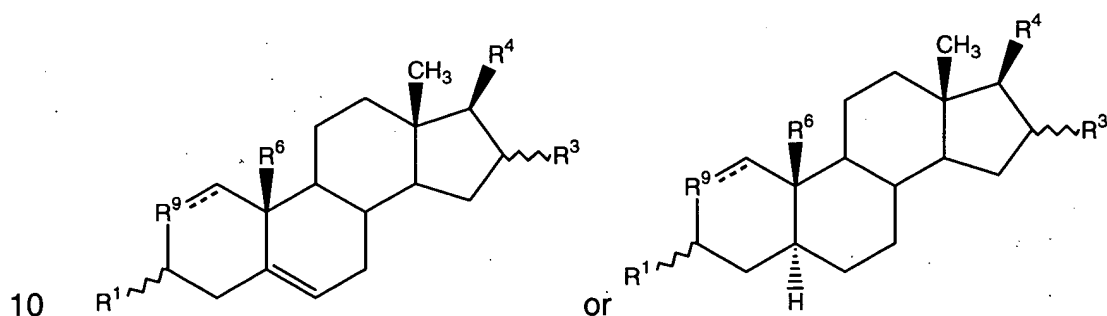
R^9 is $-CHR^{10}$ - where R^{10} is $-H$, $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, a halogen, an ester, an ether, a phosphoester, a carbonate, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; and

R^{PR} independently are $-H$ or an independently selected protecting group, whereby the number or activity of neutrophils in circulation in the human is increased.

Claim 81 (new): The method of claim 80 wherein the innate immune suppression condition is associated with radiation, chemotherapy, aging, autologous bone marrow transplantation or stem cell transplantation.

5 Claim 82 (new): The method of claim 81 wherein the innate immune suppression condition is associated with the radiation or chemotherapy.

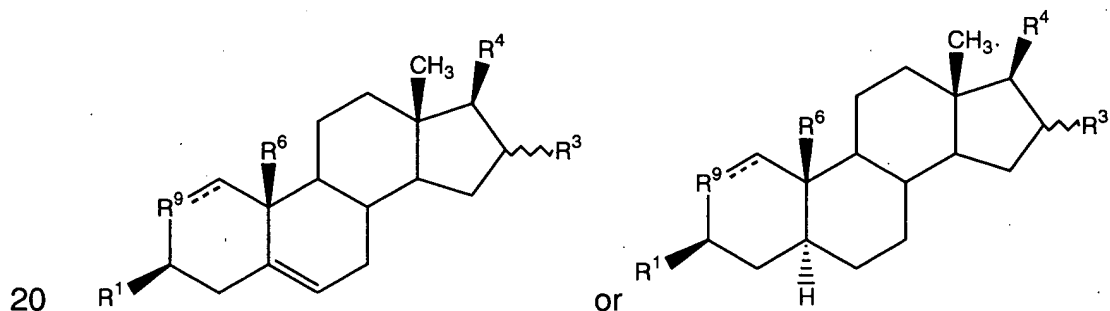
Claim 83 (new): The method of claim 82 wherein the compound has the structure



Claim 84 (new): The method of claim 83 wherein R¹ is -OH, -SH, an ester, an ether or a carbonate.

15 Claim 85 (new): The method of claim 84 wherein R⁴ is -OH, -SH, an ester, phosphate, a phosphoester or an ether.

Claim 86 (new): The method of claim 85 wherein the compound has the structure



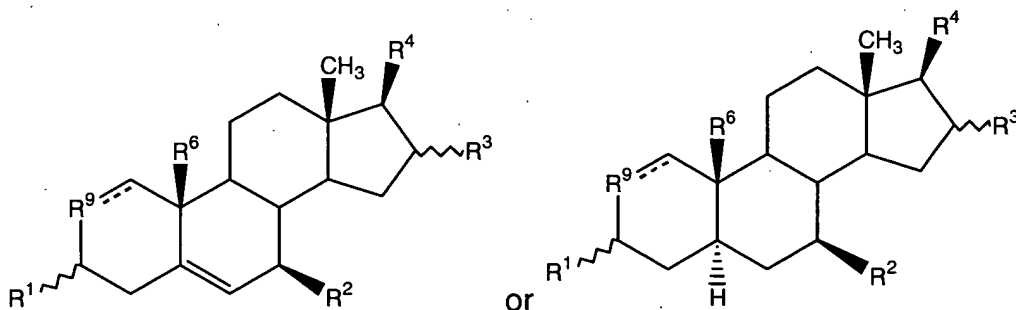
Claim 87 (new): The method of claim 86 wherein R^3 is -F, -Cl, -Br, -I, -OH, =O, -SH, =S, an ester, an ether, a thioester, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

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Claim 88 (new): The method of claim 86 wherein R^9 is $-CH_2-$, $-CH(OH)-$, $-C(O)-$, or $-CHR^{10}-$, wherein R^{10} is a halogen, an ester, an ether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

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Claim 89 (new): The method of claim 82 wherein the compound has the structure



and R^2 is -OH, an ester, an ether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

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Claim 90. (new): The method of claim 82 wherein the compound is $3\beta, 17\beta$ -dihydroxyandrost-5-ene, $3\alpha, 17\beta$ -dihydroxyandrost-5-ene, 16α -fluoro- 17β -dihydroxyandrost-5-ene, 16α -fluoro- 17α -dihydroxyandrost-5-ene, 16α -fluoro- 17 -oxoandrost-5-ene, $3\beta, 7\beta, 17\beta$ -trihydroxyandrost-5-ene, $3\alpha, 7\beta, 17\beta$ -trihydroxyandrost-5-ene, $3\beta, 16\beta, 17\beta$ -trihydroxyandrostane, $3\beta, 16\alpha, 17\beta$ -trihydroxyandrostane or $3\alpha, 16\alpha, 17\beta$ -trihydroxyandrostane.

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Claim 91 (new): The method of claim 90 wherein the compound is $3\beta, 17\beta$ -dihydroxyandrost-5-ene.

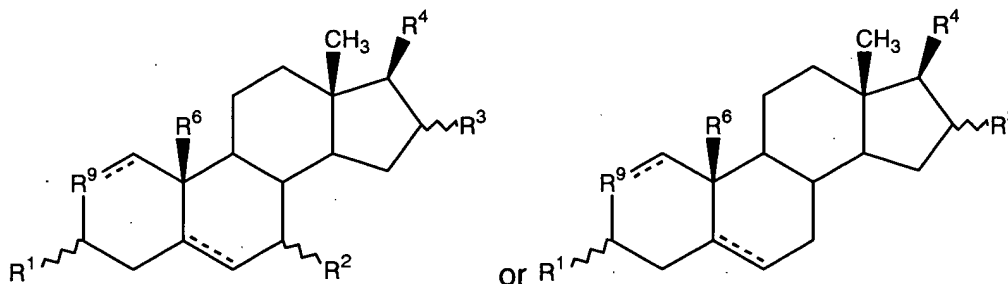
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Claim 92 (new): The method of claim 91 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is administered daily for 3, 4, 5, 6 or 7 consecutive days.

Claim 93 (new): The method of claim 91 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is parenterally administered for 5 consecutive days.

Claim 94 (new): The method of claim 93 wherein 50 mg, 75 mg, 100 mg, 150 mg, 200 mg, 250 mg or 300 mg per day of 3 β ,17 β -dihydroxyandrost-5-ene is administered.

Claim 95 (new): A method to treat or prevent an innate immune suppression condition in a non-human primate comprising administering to the non-human primate about 4-40 mg/kg/day of a compound having the structure



wherein, the dotted lines are optional double bonds and the hydrogen atom at the 5-position, if present, is in the α -configuration;

R¹ is -OR^{PR}, -SR^{PR}, an ester, a thioester, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, an ether, a thioether, a carbonate or a thioacetal;

R² is -OR^{PR}, =O, -SR^{PR}, =S, -CN, =NOH, =NOC(O)CH₃, an ester, a thioester, an ether, a thioether, an acyl group, a thioacyl group, a carbonate, a thioacetal, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R³ is -H, -OR^{PR}, =O, -SR^{PR}, =S, -N(R^{PR})₂, -N₃, -CN, -NO₂, -F, -Cl, -Br, -I, an ester, a thioester, a thioacetal, an ether, a thioether, a carbonate, a

carbamate, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^4 is $-OR^{PR}$, $-SR^{PR}$, an ester, a thioester, phosphate, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, a sulfite ester, a sulfate ester, an ether, a thioether, a carbonate, a thioacetal or a polymer;

R^6 is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^9 is $-CHR^{10}-$ where R^{10} is -H, $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, a halogen, an ester, an ether, a phosphoester, a carbonate, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; and

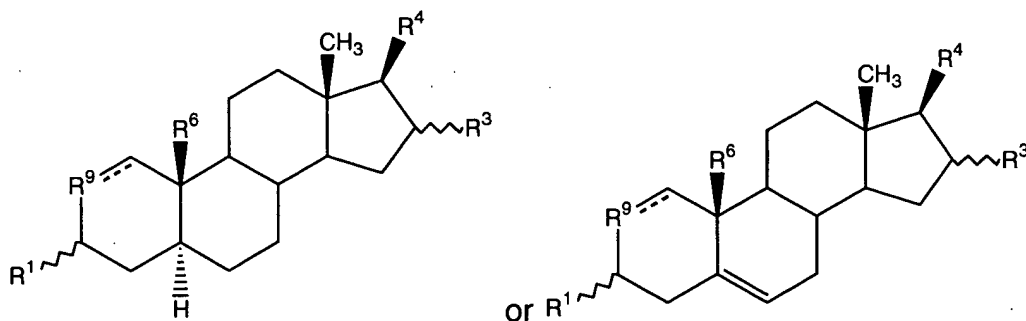
R^{PR} independently are -H or an independently selected protecting group, whereby the number or activity of neutrophils in circulation in the non-human primate is increased.

Claim 96 (new): The method of claim 95 wherein the non-human primate is a cynomolgus monkey or a macaque monkey.

Claim 97 (new): The method of claim 96 wherein the innate immune suppression condition is associated with radiation, chemotherapy, autologous bone marrow transplantation or stem cell transplantation.

Claim 98 (new): The method of claim 97 wherein the innate immune suppression condition is associated with the radiation or chemotherapy.

Claim 99 (new): The method of claim 98 wherein the compound has the structure



Claim 100 (new): The method of claim 99 wherein R¹ is -OH, -SH, an ester, an ether or a carbonate.

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Claim 101 (new): The method of claim 100 wherein R⁴ is -OH, -SH, an ester, phosphate, a phosphoester or an ether.

Claim 102 (new): The method of claim 101 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene.

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Claim 103 (new): The method of claim 101 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is administered daily for 3, 4, 5, 6 or 7 consecutive days.

Claim 104 (new): The method of claim 103 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is parenterally administered for 4, 5 or 6 consecutive days.

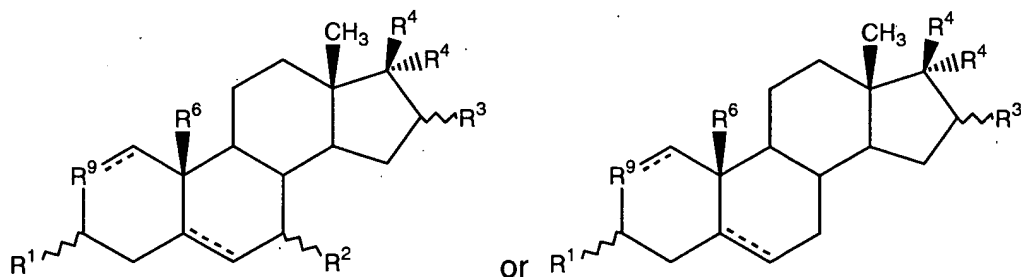
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Claim 105 (new): The method of claim 104 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is administered for 5 consecutive days.

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Claim 106 (new): A method to treat or prevent an innate immune suppression condition in a human, wherein the method comprises administering an effective amount of a compound for 3 to 15 consecutive days to the subject, wherein the compound has the structure

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wherein, the dotted lines are optional double bonds and the hydrogen atom at the 5-position, if present, is in the α -configuration;

R^1 is -H, $-OR^{PR}$, $-SR^{PR}$, an ester, a thioester, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, an ether, a thioether, a carbonate or a thioacetal;

R^2 is $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, $-CN$, $=NOH$, $=NOC(O)CH_3$, an ester, a thioester, an ether, a thioether, an acyl group, a thioacyl group, a carbonate, a thioacetal, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^3 is -H, $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, $-N(R^{PR})_2$, $-N_3$, $-CN$, $-NO_2$, $-F$, $-Cl$, $-Br$, $-I$, an ester, a thioester, a thioacetal, an ether, a thioether, a carbamate, a carbonate, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^4 in the β -configuration is $-OR^{PR}$, $-SR^{PR}$, an ester, a thioester, phosphate, a phosphoester, a phosphothioester, a phosphonoester, a phosphiniester, a sulfite ester, a sulfate ester, an ether, a thioether, a carbonate, a thioacetal, or a polymer;

R^4 in the α -configuration is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

R^6 is -H, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl;

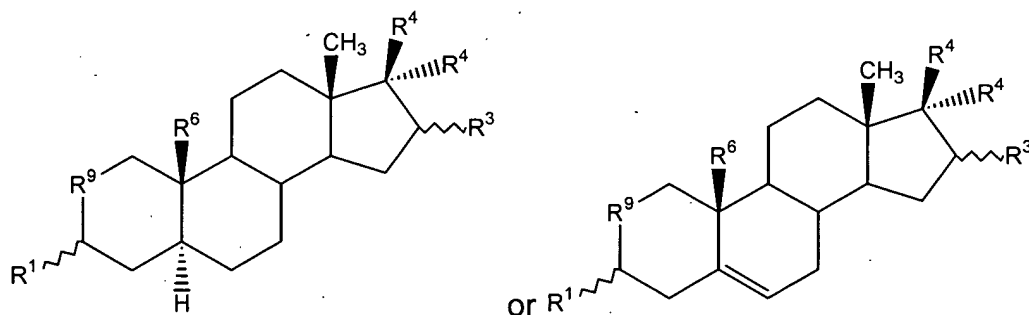
R^9 is $-CHR^{10}$ - where R^{10} is -H, $-OR^{PR}$, $=O$, $-SR^{PR}$, $=S$, a halogen, an ester, an ether, a phosphoester, a carbonate, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl; and

R^{PR} independently are -H or an independently selected protecting group, whereby the numbers or activity of neutrophils in circulation in the human is increased.

5 Claim 107 (new): The method of claim 106 wherein the innate immune suppression condition is associated with radiation, chemotherapy, aging, autologous bone marrow transplantation or stem cell transplantation.

10 Claim 108 (new): The method of claim 107 wherein the innate immune suppression condition is associated with the radiation or chemotherapy.

Claim 109 (new): The method of claim 108 wherein the compound has the structure



15 Claim 110 (new): The method of claim 109 wherein R^1 is -OH, -SH, an ester, an ether or a carbonate.

20 Claim 111 (new): The method of claim 110 wherein R^4 is -OH, -SH, an ester, phosphate, a phosphoester or an ether.

25 Claim 112 (new): The method of claim 111 wherein R^3 is -F, -Cl, -Br, -I, -OH, =O, -SH, =S, an ester, an ether, a thioester, a thioacetal, a thioether, optionally substituted alkyl, optionally substituted alkenyl or optionally substituted alkynyl.

Claim 113 (new): The method of claim 110 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene, 3 α ,17 β -dihydroxyandrost-5-ene, 16 α -fluoro-17 β -dihydroxyandrost-5-ene, 3 β ,7 β ,17 β -trihydroxyandrost-5-ene, 3 α ,7 β ,17 β -trihydroxyandrost-5-ene, 3 β ,16 β ,17 β -trihydroxyandrostane, 3 α ,16 β ,17 β -trihydroxyandrostane, 3 β ,16 α ,17 β -trihydroxyandrostane or 3 α ,16 α ,17 β -trihydroxyandrostane.

Claim 114 (new): The method of claim 113 wherein the compound is 3 β ,17 β -dihydroxyandrost-5-ene.

Claim 115 (new): The method of claim 114 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is administered daily for 4, 5 or 6 consecutive days.

Claim 116 (new): The method of claim 114 wherein the 3 β ,17 β -dihydroxyandrost-5-ene is parenterally administered daily for 5 consecutive days.

Claim 117 (new): The method of claim 116 wherein about 1.0 mg/kg/day, about 1.5 mg/kg/day, about 2 mg/kg/day, about 2.5 mg/kg/day, about 3.0 mg/kg/day, about 4 mg/kg/day or about 6 mg/kg/day of the 3 β ,17 β -dihydroxyandrost-5-ene is administered.

Claim 118 (new): The method of claim 116 wherein 50 mg, 75 mg, 100 mg, 150 mg, 200 mg, 250 mg or 300 mg of the 3 β ,17 β -dihydroxyandrost-5-ene is administered each day.